

REMARKS

Claims 1-20 are pending in this application. All claims presently stand rejected as anticipated by US 5,220,963 (Patton). Additionally, Applicant received a notice of a Non-Responsive Reply because Applicant did not indicate how the newly added claims are allowable over the previously applied references. Applicant in this Reply furnishes such an explanation. The Examiner's objections and rejections are addressed in substantially the same order as in the pending Office Action.

SPECIFICATION

The cross-referenced application data has been updated to include the status of all related application.

CLAIMS OBJECTIONS

Claim 5 has been amended to depend from claim 4 instead of claim 3 as suggested by the Examiner

CLAIM REJECTIONS 0 35 USC SECTION 102

The Examiner has rejected claims 1-20 as anticipated by US 5,220,963 (Patton). With respect to the claim 1, the Examiner contends that Patton shows adjusting a position of a first center of said first adjustable stabilizer in the wellbore relative to a second center of said second stabilizer based on a desired wellbore trajectory. The Examiner asserts that column 7, lines 40-68, which is reproduced below, describes this recitation:

The term "controllable" means that elements of the stabilizer can be varied such as to affect the direction of penetration of the bit, principally through modifying the direction of the bit and/or the shear force on the bit. Several different methods of achieving this control by controlling the eccentricity of the rotary drill pipe in the borehole are described below. In all cases, the eccentric portion of the stabilizer does not rotate which allows the eccentricity to be oriented and cause the drill to penetrate in the direction desired. The non-rotation feature prevents significant wear of the formations by the stabilizer, an important benefit.

The two geometric terms, curvature and tool face orientation, define the directional properties of a borehole at any given depth and are critical to the following discussions. Curvature is the degree of bending or turning of the borehole and usually has the units of degrees/100 feet or degrees/10 meters. Tool face orientation is the clockwise angle from the high side reference in the ahead, high and right downhole coordinate system, FIG. 2. The degree of curvature and its tool face orientation are functions of and can be controlled by the degree of eccentricity of the rotating drill bit in the borehole and its tool face orientation.

The various stabilizer methods will be discussed in order of their functional performance level.

Applicant has reviewed the above-reproduced section of Patton and the remaining portions of Patton and have been unable to identify which passage describes adjusting a first center of said first adjustable stabilizer in the wellbore relative to a second center of said second stabilizer. Applicant understands Patton to describe stabilizers that can be eccentrically positioned. However, Applicant finds no teaching or suggestion in Patton that a center of one stabilizer is adjusted relative to a center of another stabilizer. Because Patton, to Applicant's reading, does not teach each and every aspect of claim 1, Applicant submits that claim 1 is allowable over Patton.

Claims 2-12 depend from claim 1, which for the reasons provided above is allowable over Patton. Thus, dependent claims 2-13 are believed allowable on at least such grounds.

With respect to claim 13, the Examiner contends that Patton discloses a drilling motor for rotating a drill bit and refers to column 1, lines 53-60. The referenced passage is reproduced below:

Modern directional drilling practice generally employs downhole mud motors, a bend in the BHA or offset stabilizer, and a directional survey instrument to determine the direction of the bend. Commonly, the direction of the bend or offset is called Tool Face Orientation (TFO) and is determined either by gravity methods, or magnetic measurement. Today, this TFO information is generally provided in real time by either direct wireline or a Measurements-While-Drilling (MWD) system which most often uses mud telemetry.

Applicant observes that in this passage, which is in the background section, Patton is discussing the prior art, not the disclosed drilling system. In particular, Patton relates while rotary drive drilling systems are preferred, drilling motor assemblies are used for course correction and drilling deviated wellbores. Patton explains that multiple trips are sometimes needed to drill a wellbore and states the problem with the prior art as follows:

More specifically, it is apparent that there is a need to incorporate a method of directional control into standard rotary drilling which produces little or no interference with the optimal drilling efficiency of the rotary method. The directional rotary method described in greater detail below, provides a method and apparatus for continuously and automatically controlling the direction of an optimal rotary drill such that the borehole is drilled substantially along a preplanned profile with minimal dogleg in minimum time without tripping for directional purposes.

(emphasis added)

To Applicant's reading, Patton has no disclosure, teaching, or suggestion of using a drilling motor for rotating the drill bit using the described system. To the contrary, the primary advantage of Patton ('963) is directional control while using conventional rotary drilling methods (col. 6, lines 55-59). Because Patton, to Applicant's reading, does not teach each and every aspect of claim 13, Applicant submits that claim 13 is allowable over Patton.

Claims 14-20 depend from claim 13, which for the reasons provided above is allowable over Patton. Thus, dependent claims 14-20 are believed allowable on at least such grounds.

NEW CLAIMS

Applicant has added new claims 21-25 to further claim the present invention. Applicant believes that the new claims define over the prior art of record and are in condition for allowance.

New independent claim 21 recites controlling a drilling direction of a drill bit by adjusting a position of a first center of a first adjustable stabilizer relative to a second center of a second stabilizer. As noted above, Applicant understands Patton to describe

stabilizers that can be eccentrically positioned. However, Applicant finds no teaching or suggestion in Patton that a center of one stabilizer is adjusted relative to a center of another stabilizer. Because Patton, to Applicant's reading, does not teach each and every aspect of claim 21, Applicant submits that claim 21 is allowable over Patton.

With respect to claim 22, Patton does not teach or suggest superimposing a drill string rotation on a drill bit.

With respect to claim 23, Patton does not teach or suggest positioning a center of a second stabilizer eccentric of a centerline of the wellbore such that gravity causes a pendulum effect for a drill string coupled to a drill bit.

With respect to claim 24, Patton does not teach or suggest determining a deviation between a measured trajectory and a predetermined direction; and adjusting the center of a first adjustable stabilizer relative to a center of a second stabilizer in response to the measured deviation.

With respect to claim 25, Patton does not teach or suggest fixing a diameter of a second stabilizer while drilling a deviated section of the wellbore.

With respect to claim 26, Patton does not teach or suggest an adjustable stabilizer having a second set of ribs containing a plurality of independently controllable ribs, and further comprising adjusting at least one of a plurality of independently controlled ribs to control a drilling direction of the drill bit.


Thus, claims 22-26 are allowable over Patton also.

CONCLUSION

Consideration of the application as amended is respectfully requested. The Commissioner is hereby authorized to charge any fee and credit any overpayment associated with this response to Deposit Account No. **02-0429(564-12835-USCQ)**.

Respectfully submitted,

Dated: May 12, 2006



Chandran D. Kumar, Reg. No. 48,679
Madan, Mossman & Sriram, P.C.
2603 Augusta Suite 700
Houston, Texas 77057-5638
Tel: (713) 266-1130
Fax: (713) 266-8510
Attorney For Applicants